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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |  |
|--|-------------|----------------------|---------------------|------------------|--|
| 10/558,386   | 11/29/2005  | Ahmed Kaddani        | 43315-225720        | 4157             |  |
| 26694  | 7590        | 11/27/2009           | EXAMINER            |                  |  |
| VENABLE LLP<br>P.O. BOX 34385<br>WASHINGTON, DC 20043-9998 |             | DANG, KET D          |                     |                  |  |
|  |             | ART UNIT             |                     | PAPER NUMBER     |  |
|  |             | 3742                 |                     |                  |  |
|  |             | MAIL DATE            |                     | DELIVERY MODE    |  |
|  |             | 11/27/2009           |                     | PAPER            |  |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/558,386             | KADDANI ET AL.      |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | KET D. DANG            | 3742                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 29 November 2005.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-5 and 13-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-5 and 13-15 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 29 November 2005 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ .  | 6) <input type="checkbox"/> Other: _____ .                        |

## **DETAILED ACTION**

This office action is responsive to the amendment filed on August 25, 2009. As directed by the amendment: claims 1 and 13 have been amended, claims 10-12 have been withdrawn and claim 15 has been added. Thus, claims 1-5 and 13-15 are presently pending in this application.

### ***Priority***

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in Sweden Parent Application No. 0301753-0, filed on June 13, 2003.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-5 and 13-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, there is insufficient antecedent basis for "the actual welding situation" recited at line 10 in the claim. The term "the" should be changed to "a".

Claim 13 recites the limitation "a calibration unit" at line 4 which renders the claim indefinite. It is unclear for whether this calibration unit is the same as the one recited at line 2. If it is so, then "a" should be replaced with "the" or "said". If it is not, then essential structural cooperative relationships between the two are suggested.

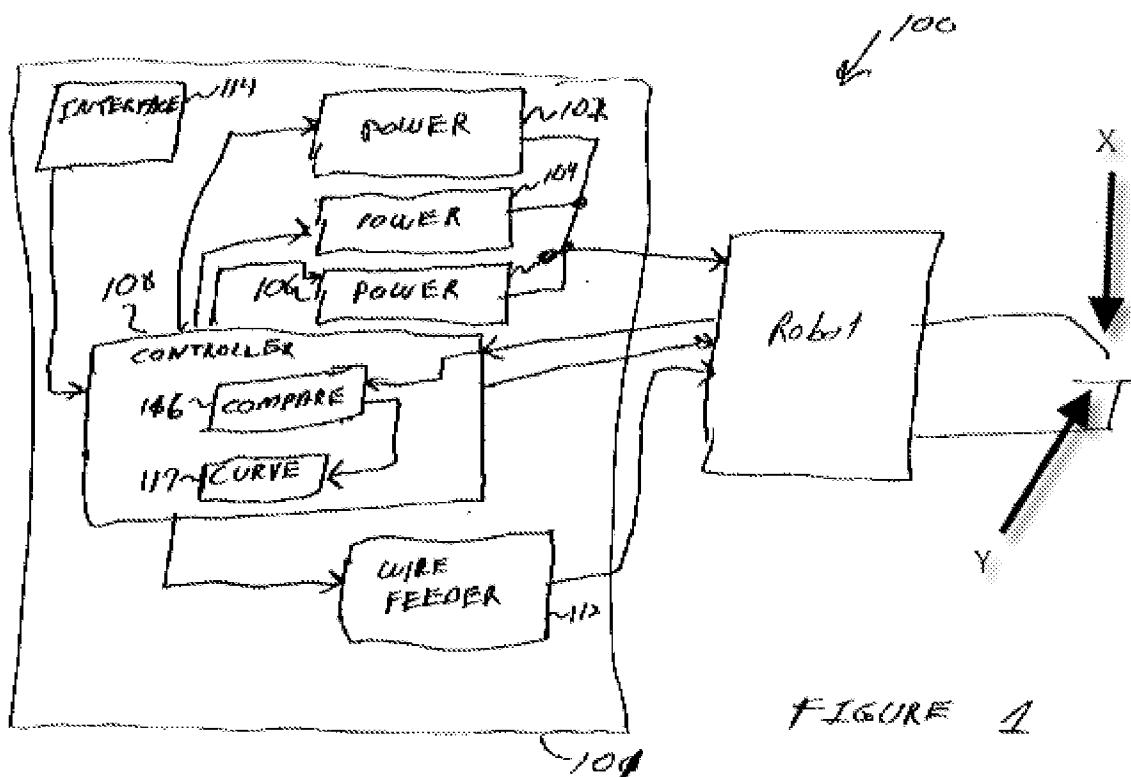
***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-2, 4, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rappl et al. (US Pub. No. 2003/0052108 A1) in view of Paton (US 4716273).

6. Regarding claims 1-2, 4, and 15, Rappl et al disclose a method of tuning an arc welding system 100 (Fig. 1) (Page 3, paragraph 32) comprising an electric circuit (Page 2, paragraph 29) including a power source 101 (Fig.1) (Abstract), a control system 108 (Fig. 1) including computer means (Page 3, paragraph 35) and memory means (Page 2, paragraph 26); calculating tuning parameter values based on the system input parameters (Abstract) (Page 1, paragraph 9, lines 7-8) by using the simulation model of the arc welding system 100 (fig. 1); and tuning the arc welding system by implementing the tuning parameter values into the control system (Page 1, paragraph 3), wherein the simulation model is calibrated to represent the actual welding situation by measurement of the model parameter values on a welding station on site (Page 3, paragraph 40); three calibration modes (Page 1, paragraph 17, lines 5-7) and the metal transport between the electrode X (Fig. 1 above) and the workpiece Y (Fig. 1 above); and parameter values for properties related to the power source, a wire, a workpiece Y (fig. 1 below), and a weld profile (see figure 1 below; page 1, paragraph 0002).



Rappl et al. fail to disclose system input parameters of the electric circuit and feeding the system input parameters to a simulation model of the arc welding system.

However, Paton teaches system input parameters 7 (fig. 1) (abstract) of the electric circuit and feeding the system input parameters to a simulation model 3 (fig. 1) of the arc welding system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the Rappl's reference, to include a simulation system, as suggested and taught by Paton, for the purpose of achieving higher accuracy of the arc welding process.

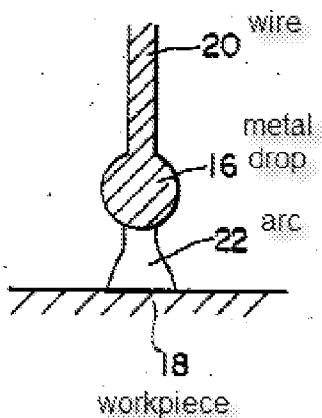
7. Claims 5 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rappl et al. (US Pub. No. 2003/0052108 A1) in view of Ueguri et al. (US 4,594,498).

8. Regarding claims 5 & 13-14, Rappl et al. disclose the claimed invention, including a calibration unit configured to calibrate the simulation model and to calculate tuning parameter values (Page 1, paragraphs 0009, 0010, 0032, and 0038) and implement the parameter values into a control system 108 (fig. 1) of a robotic arc-welding station representative of the simulation model (See robot figure 1), **except** for a metal transport model is brought to comprise a first model part of a region close to the wire, a second model part of the arc column, and a third model part of the metal condensing in the region close to the workpiece; and wherein the electric circuit comprise inductance, resistance, and power source of the electric circuit.

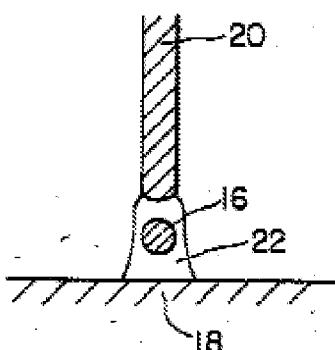
However, Ueguri et al. teach a metal transport model is brought to comprise a first model part of a region close to the wire (See Fig. 2A below), a second model part of the arc column (See Fig. 2B below), and a third model part of the metal condensing in the region close to the workpiece (See Fig. 2C below); and wherein the electric circuit comprise inductance 262 (Fig. 11), resistance 264 (Fig. 11), and power source 260 (Fig. 11) of the electric circuit (Col. 9, lines 41 - Col. 10, lines 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the Rappl's reference, to include a metal transport steps and a electric circuit, as suggested and taught by Ueguri, for the purpose of achieving metal transferring welding

operation in three different phrases (Col. 1, lines 11- 18).

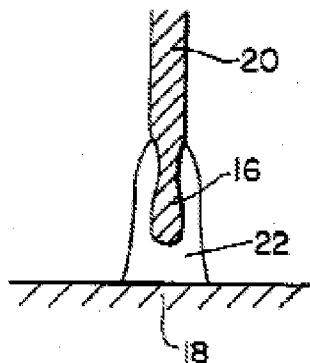
**FIG. 2A**



**FIG. 2B**



**FIG. 2C**



#### ***Response to Amendment/Arguments***

9. Applicant's amendments have overcome the 35 U.S.C. 112 2<sup>nd</sup> paragraph rejection from the first non-final Office Action. However, after further reconsideration, all pending claims are rejected under this section as for the reason set forth above.

With respect to applicant's argument that Rappl et al. does not disclose the invention recited in claim 1 since, among other things, Rappl et al. does not disclose a simulation model or calibrating a simulation model. Rather, Rappl et al. discloses a calibration method for calibrating a power supply and a robot. According to Rappl et al., predetermined parameter set values are compared with actual values received from a command signal. Compensation curves are calculated in order to correct an error in the command signal (emphasis added). The examiner's position is that while Rappl et al. does not explicitly show a simulation model, the prior system calibration unit was

configured to calibrate the simulation model and to calculate tuning parameter values (Page 1, paragraphs 0009, 0010, 0032, and 0038) and implement the parameter values into a control system 108 (fig. 1) of a robotic arc-welding station representative of the simulation model. As the claims amended to further recite the simulation model, Paton (US 4716273) teaches system input parameters 7 (fig. 1) (abstract) of the electric circuit and feeding the system input parameters to a simulation model 3 (fig. 1) of the arc welding system

In general, Applicant's arguments with respect to claims 1 and 13 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KET D. DANG whose telephone number is (571) 270-7827. The examiner can normally be reached on Monday - Friday, 7:30 - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoang Tu can be reached on (571) 272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KET D DANG/  
Examiner, Art Unit 3742  
November 21, 2009  
/TU B HOANG/  
Supervisory Patent Examiner, Art Unit 3742